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State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Minerals Inspection Report

Reviewed

[Signature]

Report Date: 03/31/2016

Mine Name: Bentonite Pits	Permit Number: M/041/0012	Mine Status: active
Operator Name: Western Clay Co.	Inspection Date: 03/28/2016	Permit Fees: Paid
Inspector(s): Lynn Kunzler	Inspection Time: 2:30 pm	Bond Amount: \$428,000
Attendee(s): Cory Thurston	Weather: cloudy/windy	Bond Escalation:
Inspection Purpose: Check Revegetation status of two north pits		Prior Inspection:

Conclusions and Recommendations

The requested release for the North Sheep Trail pits should not be approved. Vegetation on the North Sheep Trail and North Sheep Trail Expansion pits does not meet the revegetation standard for successful reclamation at this time. The operator will need to do supplemental seeding this fall. Areas to be seeded will need to be ripped first. It is also recommended that compost or manure be applied prior to ripping at a rate of 5 ton per acre. The Division will provide a seed mix that is better adapted to the clay soils. This work should be planned for and completed in late October, 2016.

Elements of Inspection	Evaluated & Commented	Enforcement
1. <i>Permits, Revisions, Transfer, Bonds</i>	<input type="checkbox"/>	<input type="checkbox"/>
2. <i>Public Safety (shafts, adits, trash, signs, highwalls)</i>	<input type="checkbox"/>	<input type="checkbox"/>
3. <i>Protection of Drainages/Erosion Control</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examination of the North Sheep Trail and North Sheep Trail Expansion pits did not show significant signs of erosion. There was some minor rilling on the North Sheep Trail pit, but all runoff was reporting to a small retention pond. No runoff was leaving the site.		
4. <i>Deleterious Material</i>	<input type="checkbox"/>	<input type="checkbox"/>
5. <i>Roads (maintenance, surfacing, dust control, safety)</i>	<input type="checkbox"/>	<input type="checkbox"/>
6. <i>Reclamation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The operator had requested bond release for these areas in January of 2016. While the regrading and earth work was fine, the vegetation has not satisfactorily established. It will be necessary to do supplemental seeding this fall (late October). Areas to be reseeded include the entire North Sheep Trail Expansion pit and the southern 1/3 of the North Sheep Trail pit. If the northern 2/3 of this area can be partially ripped without damage to the existing vegetation it should be ripped and seeded as well. It is recommended that the following steps be taken to help insure successful revegetation: Apply compost or manure at a rate of 5 ton per acre. Rip the area to a minimum depth of 12 inches - recommended spacing of the rippers at 2 feet - followed immediately by broadcast seeding. The Division will provide a recommended seed mix for this one-time seeding. Please contact the Division prior to doing this work so that we can document and witness that the appropriate steps are completed.

7. <i>Backfilling/Grading (trenches, pits, roads, highwalls, shafts)</i>	<input type="checkbox"/>	<input type="checkbox"/>
8. <i>Soils</i>	<input type="checkbox"/>	<input type="checkbox"/>
9. <i>Revegetation</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Vegetation was establishing on the North Sheep Trail Pit. Species observed included squirrel tail, Tall wheatgrass, Crested Wheatgrass, Forage Kochia, and 4-wing Saltbrush. Most of this vegetation was growing on the Northern 2/3 of the pit area, and in the furrows left by the original ripping of this area. While the furrows were mostly filled with vegetation, the spacing of 4-plus feet between furrows left a significant amount of area void of vegetation. It is recommended that the interspace between the existing furrow be ripped and seeded this fall along with the southern 1/3 of this pit.

The Expansion pit had virtually no desirable vegetation. there was some halogeton and russian thistle growing on this area. It was evident from the surface cracking that this was a heavy clay soil. This entire pit will need to be reseeded. (see steps outlined in #6)

10.	Other	<input checked="" type="checkbox"/>	<input type="checkbox"/>																		
Suggested seed mix reclamation plan for reseeding into clay soils: (refer to item 6 above)																					
<table><thead><tr><th>Species</th><th>Rate (pure live seed/acre)</th></tr></thead><tbody><tr><td>Russian Wildrye</td><td>2.0 lbs</td></tr><tr><td>Tall wheatgrass</td><td>2.0 lbs</td></tr><tr><td>Squirrel tail</td><td>2.0 lbs</td></tr><tr><td>Crested wheatgrass</td><td>1.0 lbs</td></tr><tr><td>Forage Kochia</td><td>0.75 lbs</td></tr><tr><td>4-wing saltbush</td><td>1.5 lbs</td></tr><tr><td>Shadscale</td><td>1.5 lbs</td></tr><tr><td colspan="2">TOTAL PLS per acre - - - 10.75 lbs</td></tr></tbody></table>				Species	Rate (pure live seed/acre)	Russian Wildrye	2.0 lbs	Tall wheatgrass	2.0 lbs	Squirrel tail	2.0 lbs	Crested wheatgrass	1.0 lbs	Forage Kochia	0.75 lbs	4-wing saltbush	1.5 lbs	Shadscale	1.5 lbs	TOTAL PLS per acre - - - 10.75 lbs	
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Seed late fall. Apply composted manure, then rip area on contour (max spacing between ripper shanks of 2 feet). Broadcast seed immediately after ripping.																					

Inspector's Signature: _____

CC: Peter Brinton, DOGM
Brad boyter, Operator, (bboyter@hotmail.com)

File: /nrwogmfs1/OGM/GROUPS/MINERALS/WP/M041-Sevier/M0410012-BentonitePits/inspections/Insp-03282016.pdf



North Sheep Trail Expanson Pit (reclaimed)
only small amounts of halogeton and Russian thistle growing.



Evidence of heavy clay soils - North Sheep Trail Expansion Pit



North Sheep Trail Pit - Tall wheatgrass, 4-wing saltbrush, forage kochia
squirrel tail, and crested wheatgrass.



North Sheep Trail Pit - Tall wheatgrass, 4-wing saltbrush, forage kochia
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